



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,140	02/13/2004	Mark D. Fabry	08350.1639-00000	3795
58982	7590	09/05/2006	EXAMINER	
CATERPILLAR/FINNEGAN, HENDERSON, L.L.P.			NGUYEN, CUONG H	
901 New York Avenue, NW			ART UNIT	
WASHINGTON, DC 20001-4413			PAPER NUMBER	
			3661	

DATE MAILED: 09/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/777,140	Applicant(s) FABRY ET AL.	
	Examiner CUONG H. NGUYEN	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/25/06 (the RCE).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is the answer to the RCE received on 7/25/06.

The pending claims are 1-17.

Drawings

2. Three sheets of 3 formal drawings (received on 2/13/2004) are acceptable for examining purposes.

Response

3. The examiner maintains the previous ground of rejections (Office Action 4/18/2006) because what the applicant claims (see pending claims 1-17) were suggested by prior art as cited. Applicants' arguments are unpersuasive and unclear: on page 7, para.4-5, on page 8, para.3, and on page 9, para.1, and 3; applicants just argue/conclude that cited references fail to disclose or suggest all of the subject matter recited in the independent claim(s) and applicants do not supporting that by indicating/pointing out why/where/how .etc examiner's cited references' failure(s).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. §103(a), which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patent ability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, and 8 are rejected under 35 U.S.C. §103(a) as being unpatentable over Koga et al. (US Pat. 5,670,830), in view of Fiaschetti et al. (US Pat. 5,901,684).

A. Per claim 1: Koga et al. teach a power management system for a machine, comprising:

- a power source configured to receive a fuel supply based on a fuel curve associated with the machine (see Koga et al., Fig.1 refs. 13, and 9);
- a transmission being driveably engaged with the power source (see Koga et al., Fig.1 refs. 9, 4, 2); and
- a control system “in communication” with the power source and the transmission (see Koga et al., Fig.1 refs. 13, 9), the control system being configured to determine a fuel supply limit associated with a desired speed of the power source (see Koga et al., Fig.2), the fuel supply limit being determined (see Koga et al., claim 1).
- Koga et al. do not expressly disclose that the fuel supply limit is determined from a fuel curve associated with the machine.
- However the examiner respectfully submits that this was a desirability of every car’s designer – to perfect the engine’s performance according to a predetermined curve), wherein the control system is operative to modify at least a portion of the fuel curve based on a load condition of the power source (see Koga et al., Fig.3).
- Koga et al. do not disclose a proportional between motor torque and a vehicle’s load.

However, as plain definition with one of ordinary skill in the art, a motor torque represents a generated rotating force output power/load of a vehicle (i.e., *Equation:* $T = FR$

Where: T = Torque, lb-ft

F = Force, lb

R = Radius, or distance which force is applied from pivot location, ft).

- Koga et al. do not disclose a capability of modifying a fuel supply of a vehicle.

However, Fiaschetti et al. suggest about modifying a fuel supply source – to reduce the fuel supply when a load condition of the power source exceeds an amount - by controlling a Fuel Injector 124 (see Fiaschetti et al., Fig.4).

It would have been obvious with one of ordinary skill in the art at the time of invention was made to combine Koga et al., and Fiaschetti et al. to disclose about modifying a fuel supply of a vehicle for the advantage of reducing fuel injection as a function of the learned combustion stability value, reducing hydrocarbon emissions while maintaining good drive-ability and performance of the vehicle.

B. Per claim 4: Koga et al. inherently teach a power management system for a machine, comprising a drive train operably coupled to a transmission (DRIVE MANAGEMENT CONTROLLER 9 is coupled to transmitting output power to wheels 3A and 3B, see Koga et al., Fig.1).

C. Per claim 8: Koga et al. also teach a power management system for a machine, comprising a DRIVE MANAGEMENT CONTROLLER 9 to modify the fuel curve based on the load condition of the power source (LIMITED curves) and a power source speed (see Koga et al., Figs. 2-3).

5. Claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over Koga et al. (US Pat. 5,670,830), in view of Fiaschetti et al. (US Pat. 5,901,684), and in view of Manring (PGPUB US 20020133279 A1).

The rationales and references for a rejection of claim 9 are incorporated.

Koga et al. and, Fiaschetti et al. do not disclose about a drive train is configured to drive tracks of an earth-working machine.

However, Manring teaches that idea (see Manring, paragraphs {008, 0013, 0015, and 0021}).

It would have been obvious with one of ordinary skill in the art at the time of invention to combine Koga et al., Manring, and Fiaschetti et al. to disclose about modifying a fuel supply of a vehicle for the advantage of control-ability of adjusting the amount of fuel being injected into an engine's cylinders wherein that engine may be an earth-working machine.

6. **Claims 2-3, 9, 13, 15, and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Koga et al. (US Pat. 5,670,830), in view of Fiaschetti et al. (US Pat. 5,901,684), and in view of Rini et al. (US Pat. 5,121,324).**

A. Per claims 2-3: The rationales and references of claim 1 are incorporated.

Claims 2-3 cover all limitations of claim 1, except:

- the fuel supply limit being regulated based on rack position and a load condition of the power source.
- Rini et al. teach about using a rack position (FUEL RACK POSITION SENSOR 2007) and a load condition (ENGINE SPEED SENSOR 2005) to determine a signal for controlling FUEL SHUT-OFF (2010) (i.e., to reduce a power supply).
- It would have been obvious with one of ordinary skill in the art at the time of invention to combine Koga et al., Fiaschetti et al., and Rini et al. to suggest that fuel supply limit being regulated based on rack position and a load condition of the power source for the advantage of applying optimum working condition to a vehicle (e.g., raising to a higher efficiency level).

B. Per claim 9: Koga et al. inherently teach a power management system for a machine, comprising a drive train operably coupled to a transmission (DRIVE MANAGEMENT CONTROLLER 9 is coupled to transmitting output power to wheels 3A and 3B, see Koga et al., Fig.1).

C. Per claims 13, and 17: The rationales and references for a rejection of claim 2 are incorporated.

Fiaschetti et al. also teach an emissions sensor to sense an amount of emissions leaving the power source, and to modify the fuel curve based on the sensed amount of emissions (see Fiaschetti et al., col.1, lines 33-38, and col. 2 lines 58-61).

D. Per claim 15: The rationales and references for a rejection of claim 3 are incorporated.

Fiaschetti et al. also teach about modifying the fuel supply limit includes determining a percent of correction to fuel (116) for modifying the fuel supply (124) (see Fiaschetti et al., Fig.4 and col.5, lines 28-67).

7. Claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over Koga et al. (US Pat. 5,670,830), in view of Fiaschetti et al. (US Pat. 5,901,684), in view of Rini et al. (US Pat. 5,121,324), further in view of Manring (PGPUB US 20020133279 A1).

The rationales and references for a rejection of claim 9 are incorporated.

Koga et al. and, Fiaschetti et al. do not disclose about a drive train is configured to drive tracks of an earth-working machine.

However, Manring teaches that idea (see Manring, paragraphs {008, 0013, 0015, and 0021}).

It would have been obvious with one of ordinary skill in the art at the time of invention to combine Koga et al., Manring, Rini et al., and Fiaschetti et al. to disclose about modifying a fuel supply of a vehicle for the advantage of control-ability of adjusting the amount of fuel being injected into an engine's cylinders wherein that engine may be an earth-working machine.

8. Claims 6-7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Koga et al. (US Pat. 5,670,830), in view of Fiaschetti et al. (US Pat. 5,901,684), and in view of Schimmel et al. (US Pat. 4,885,690).

The rationales and references for a rejection of claim 1 are incorporated.

Koga et al. and Fiaschetti et al. do not disclose about sensing a power source load and transmission operating gear, and wherein the control system is configured to determine whether the transmission operating gear is within a predetermined slip-limited range of the transmission.

However, Schimmel et al. et al. suggest about sensing vehicle's transmission system, and power source using sensing means (see Schimmel et al., claim 1).

It would have been obvious with one of ordinary skill in the art at the time of invention to combine Koga et al., Schimmel et al., and Fiaschetti et al. to disclose about sensing a power source load and transmission operating gear in Koga et al.'s DRIVE MANAGEMENT CONTROLLER 9 where that control system would determine by comparing a transmission range against a predetermined range of optimum standards for an advantage of modifying to a better vehicle's working condition.

9. Claims 11-12, 14, and 16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Koga et al. (US Pat. 5,670,830), in view of Fiaschetti et al. (US Pat. 5,901,684), in view of Rini et al. (US Pat. 5,121,324), and in view of Schimmel et al. (US Pat. 4,885,690).

A. Per claims 11-12, and 16: The rationales and references for a rejection of claim 2 are incorporated.

Koga et al. and Fiaschetti et al. do not disclose about sensing a power source load and transmission operating gear, and wherein the control system is configured to determine whether the transmission operating gear is within a predetermined slip-limited range of the transmission.

However, Schimmel et al. et al. suggest about sensing vehicle's transmission system, and power source using sensing means (see Schimmel et al., claim 1).

It would have been obvious with one of ordinary skill in the art at the time of invention to combine Koga et al., Schimmel et al., Rini et al., and Fiaschetti et al. to disclose about sensing a power source load and transmission operating gear in Koga et al.'s DRIVE MANAGEMENT CONTROLLER 9 where that control system would determine by comparing a transmission range against a predetermined range of optimum standards for an advantage of modifying to a better vehicle's working condition.

B. Per claim 14: The rationales and references for a rejection of claim 3 are incorporated.

The examiner respectfully submits that it covers limitations of above-analyzed claims 6, and 7. Therefore, an obviousness rejection is also applied with the same rationales and references set forth.

Conclusion

10. Claims 1-17 are not patentable.

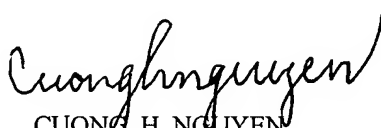
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CUONG H. NGUYEN whose tel. number is 571-272-6759. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THOMAS G. BLACK can be reached on 571-272-6956. The Rightfax number for the organization where this application is assigned is 571-273-6759.

Serial Number: 10/777,140
Art Unit: 3661

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Please provide support, with page and line numbers, for any amended or new claim in an effort to help advance prosecution; otherwise any new claim language that is introduced in an amended or new claim may be considered as new matter, especially if the Application is a Jumbo Application.


CUONG H. NGUYEN
Primary Examiner
Art Unit 3661